

TMDL REVIEW GUIDELINES

EPA Region 10

January 2002

This document provides an overview of the process used by EPA Region 10 for review and approval / disapproval of TMDLs. These guidelines also provide a framework for documenting the final decision for each TMDL reviewed by the Region. Elements of the review and approval / disapproval process include the following:

1. Approval / Disapproval Letter

2. Analysis of the TMDL (a.k.a “*The Checklist*”)

Required

U Submittal Letter	Yes
U Scope of TMDL	Yes
U Applicable Water Quality Standards & Numeric Targets*	Yes
U Loading Capacity*	Yes
U Wasteload Allocations (WLAs)*	Yes
U Load Allocations (LAs)*	Yes
U Margin of Safety (MOS)*	Yes
U Seasonal Variation*	Yes
U Monitoring Plan	Optional
U Implementation Plan	Optional
U Reasonable Assurance	(if WLAs depend on LAs) Yes
U Public Participation*	Yes
U Other Comments	As Necessary

U Administrative Record and Supporting Material

- List of documents State/Tribe relied on to make its decision
- List of documents EPA relied on to make its decision

* These elements are required by statute and implementing regulations.

The primary purpose of this document is to provide guidance to EPA Region 10 staff on documentation needed to complete the TMDL review process and to enable a more consistent review of the State and/or Tribe’s TMDLs. A secondary purpose is to communicate this framework to Region 10 States and Tribes so that their staff have a clearer understanding of information needed by EPA reviewers. This, in turn, will promote more focused discussions between the States, Tribes and EPA on TMDL review issues. Each of these elements is described more fully in the following pages including (where appropriate) suggested format, level of detail, and boilerplate language.

1. APPROVAL / DISAPPROVAL LETTER

The approval / disapproval letter communicates EPA's decision on the TMDL to the State. This authority is delegated to EPA's Regional Water Division Director. Thus, the approval / disapproval letter is from the Region 10 Office of Water Director to the appropriate State official. At a minimum, it references the TMDL submittal correspondence and the §303(d) list segments / pollutants covered by the TMDL. Other information may be included, as appropriate to the situation. Table 1 provides an example language for approval letters.

Table 1. Example TMDL Approval Letter Language

Dear _____

The U.S. Environmental Protection Agency is pleased to approve the _____ TMDLs submitted to us on _____, for the following parameters:

Waterbody

Segment

TMDL Parameter

We are impressed by the commitment and hard work shown by the _____. In particular, (names) of your staff should be commended for their efforts. We look forward to implementation of the TMDL, and continuing to work collaboratively on water quality issues in the _____ watershed.

To include unlisted waters in the TMDL approval: This approval covers the following waters and parameters not on (state's) 303(d) list. It was determined during the development of the TMDL that waters within the watershed were not meeting water quality standards for _____ and had not previously been included on (state's) 303(d) list. The EPA understands that such waters would have been included on the list had the state been aware of these exceedances at the time the list was compiled. Accordingly, these waters do not need to be included in future 303(d) lists since allocations aimed at achieving water quality standards for these impaired waters are covered under this approved TMDL.

Where tribal waters are not included in the TMDL approval: The U.S. Environmental Protection Agency (EPA) is pleased to approve the _____ Total Maximum Daily Load (TMDL) for _____ in state waters submitted by (state agency) on (date), with the exception of those waters which are within Indian Country, as defined at 18 USC section 1151.

By EPA's approval, these TMDLs are now incorporated into the State's Water Quality Management Plan under section 303(e) of the Clean Water Act. If you have any comments or questions, please feel free to call me at (206) 553-1261, or you may call (name of TMDL reviewer) of my staff at _____.

Sincerely,

Randall F. Smith, Director
Office of Water

cc: State staff

bcc: EPA, OWOW, ORC Attorney, OO, TMDL Webcoordinator, TMDL Data Entry Coordinator, 303(d) Listing Coordinator

2. ANALYSIS OF THE TMDL (a.k.a. the “*Checklist*”)

The following provides an annotated discussion of the elements EPA Region 10 will review in each TMDL. To expedite EPA’s review and decision making process, every TMDL submitted to Region 10 should cover these elements and describe important information to be used for consideration in EPA’s approval / disapproval decision on the TMDL. In the challenge to the Columbia River dioxin TMDL, the court pointed out that EPA “must articulate a satisfactory explanation for its action. There must be a rational connection between the facts found and the choices made.” Therefore, EPA will be looking for supporting rationale for approaches used under each element. It is recommended that reviewers list the page number where each element of the TMDL is discussed and described. Table 2 summarizes these elements in the form of a “*checklist*”.

EPA TMDL Project Managers may utilize this “checklist” to document the presence of statutory and regulatory elements in the TMDL under consideration for approval. In those cases, this document forms EPA’s record supporting EPA’s action and must contain all the information necessary to support EPA’s decision, if challenged.

If further explanation is needed on any element of the TMDL, the EPA TMDL Project Manager may develop a memorandum to the file. The memorandum to the file complements the “*checklist*” by providing additional documentation justifying EPA’s decision where it is appropriate or necessary. It is likely that memorandums to the file would be developed in particularly complex TMDLs.

Table 2. EPA Region 10 TMDL Review Checklist

State/Tribe:
§303(d) Segment(s):

Date of Submittal:
Date Received by EPA:

Pollutant(s):

EPA Reviewer:

Review Element	Required	Included (check if yes)	Recommendations/Comments
Submittal Letter	Yes		
Scope of TMDL	Yes		
Applicable Water Quality Standards & Numeric Targets*	Yes		
Loading Capacity*	Yes		
Wasteload Allocations (WLAs)*	Yes		
Load Allocations (LAs)*	Yes		
Margin of Safety (MOS)*	Yes		
Seasonal Variation*	Yes		
Monitoring Plan for TMDLs under adaptive management	Optional		
Implementation Plans	Optional		
Reasonable Assurances	If WLAs depend on LAs		
Public Participation*	Yes		
Other Comments	As necessary		
Recommended Action			

* These elements are required by statute and implementing regulations.

Discussion of Checklist Elements:

Section 303(d) of the Clean Water Act (CWA) and EPA's implementing regulations at 40 CFR §130 describe the statutory and regulatory requirements for approvable TMDLs. The following information is generally necessary for EPA to determine if a submitted TMDL fulfills the legal requirements for approval under §303(d) and EPA regulations. When the information listed below uses the verb "must" or "require," this denotes information that is needed by EPA to review elements of the TMDL required by the CWA and by regulation.

U Submittal Letter

Considerations:

- ! Each final TMDL submitted to EPA should be accompanied by a submittal letter that explicitly states that the submittal is a final TMDL submitted under §303(d) of the Clean Water Act for EPA review and approval. This clearly establishes the State/Tribe's intent to submit, and EPA's duty to review, the TMDL under the statute.**

U Scope of TMDL

Considerations:

- ! The TMDL must describe the waterbody as it is identified on the State/Tribe's §303(d) list, the pollutant(s) of concern and the priority ranking of the waterbody. The waters addressed by the TMDL must be identified and consistent with the 303(d) list.**
- ! The TMDL submittal must include a description of the point, nonpoint, and natural background (where possible) sources of the pollutant of concern, including the magnitude and location of the sources. Such information is necessary for EPA's review of the load and wasteload allocations which are required by regulation. The TMDL submittal should also contain a description of any important factors, such as: (1) the assumed distribution of land use in the watershed; (2) population characteristics, wildlife resources, and other relevant information affecting the characterization of the pollutant of concern and its allocation, as applicable; and (3) present and future growth trends, if this is a factor that was taken into consideration in preparing the TMDL.**

U Applicable Water Quality Standards & Numeric Targets

Considerations:

- ! The TMDL submittal must include a description of the applicable State's/Tribe's water quality standard, including the designated use(s) of the waterbody, the applicable numeric or narrative water quality criterion.** Such information is necessary for EPA's review of the load and wasteload allocations which are required by regulation. A numeric water quality target for the TMDL (a quantitative value used to measure whether or not the applicable water quality standard is attained) must be identified.
- ! If the TMDL is based on a target other than a numeric water quality criterion, a description of the process used to derive the target must be included in the submittal.**

U Loading Capacity

Considerations:

- ! EPA regulations define loading capacity as the greatest amount of loading that a water can receive without violating water quality standards [40 CFR §130.2(f)]. The loadings are required to be expressed as either mass-per-time, toxicity or other appropriate measure [40 CFR § 130.2(i)]. **The TMDL submittal must identify the waterbody's loading capacity for the applicable pollutant.** To the degree it is known, it should also describe the cause and effect relationship between the identified pollutant sources, the numeric target, and achievement of water quality standards.**
- ! Supporting documentation for the TMDL analysis must also be contained in the submittal. This should include a description of the analytical process used, results from water quality modeling, assumptions, etc.** The TMDL submittal should also contain a description of other important factors, such as an explanation and analytical basis for expressing the TMDL through surrogate measures, if applicable.
- ! Critical conditions must be considered as part of the analysis of loading capacity [40 CFR § 130.7(c)(1)].** Critical conditions are the combination of environmental factors (e.g., flow, temperature, etc.) that result in attaining and maintaining the water quality criterion and has an acceptably low frequency of occurrence. Critical conditions are important because they describe the factors that combine to cause a violation of water quality standards and will help in identifying the actions that may have to be undertaken to meet water quality standards.

U Wasteload Allocations (WLAs)

Considerations:

- !** EPA regulations require that a TMDL include WLAs, which identify the portion of the loading capacity allocated to existing and future point sources [40 CFR §130.2(h)].
- !** Wasteload allocations must be assigned to each point source discharging the pollutant of concern [40 CFR 130.2(i)], unless 1) it can be shown the discharge does not cause or contribute to exceedances of water quality standards, 2) the source is contained within an aggregated general permit, and the general permit is addressed by the TMDL, or 3) there are extenuating circumstances which prevent assignment of individual wasteload allocations. When these exceptions are used, an explanation needs to be provided in the TMDL.
- !** If no point sources are present or if the TMDL recommends a zero WLA for point sources, the WLA must be expressed as zero.
- !** The TMDL submittal should discuss whether a point source is given a less stringent wasteload allocation based on an assumption that nonpoint source load reductions will occur (*see Reasonable Assurance discussion*).

U Load Allocations (LAs)

Considerations:

- !** EPA regulations require that a TMDL include LAs, which identify the portion of the loading capacity allocated to existing and future nonpoint sources and to natural background [40 CFR §130.2(g)]. Load allocations may range from reasonably accurate estimates to gross allotments [40 CFR §130.2(g)]. Where it is possible to separate natural background from nonpoint sources, load allocations should be described separately for background and for nonpoint sources.
- !** If the TMDL concludes that there are no nonpoint sources and/or natural background, or the TMDL recommends a zero load allocation, the LA must be expressed as zero.

U Margin of Safety (MOS)

Considerations:

- !** The statute and regulations require that a TMDL include a margin of safety to account for any lack of knowledge concerning the relationship between load and wasteload allocations and water quality [CWA §303(d)(1)(C), 40 CFR § 130.7(c)(1)]. EPA guidance explains that the MOS may be implicit, i.e. incorporated into the TMDL through conservative assumptions in the analysis, or explicit, i.e. expressed in the TMDL as loadings set aside for the MOS.
- !** If the MOS is implicit, the conservative assumptions in the analysis that account for the MOS must be described. If the MOS is explicit, the loading set aside for the MOS must be identified.

U Seasonal Variation

Considerations:

- !** The statute and regulations require that a TMDL be established with consideration of seasonal variations. The method chosen for including seasonal variations in the TMDL must be described [CWA §303(d)(1)(C), 40 CFR §130.7(c)(1)].

U Monitoring Plan

Considerations:

- !** Region 10 also recognizes the role of adaptive management in TMDL development. Adaptive management is a strategy for addressing pollutant load uncertainty that emphasizes taking near term actions to improve water quality. It can be employed when data only weakly quantify links between sources, allocations and in stream targets. Adaptive management TMDLs should describe site specific actions that will be taken to achieve water quality standards, identify future data collection efforts, and provide for reassessment and revision of site specific actions so as to improve the system of pollution controls in a watershed.
- !** Adaptive management TMDLs need to include a monitoring plan that describes the information to be gathered that will be used in future to assess progress towards attainment of expected goals. The concept behind adaptive management TMDLs is similar to that described in EPA's 1991 TMDL guidance for the phased approach.

U Implementation Plans

Considerations:

- ! On August 8, 1997, EPA's issued a memorandum, "*New Policies for Establishing and Implementing Total Maximum Daily Loads (TMDLs)*" that directs Regions to work in partnership with States/Tribes to achieve nonpoint source load allocations established for §303(d)-listed waters impaired solely or primarily by nonpoint sources.
- ! Currently within Region 10, Oregon has agreed, through an MOA, to submit implementation plans to EPA concurrently with submission of TMDLs. Also as part of an MOA, Washington has agreed to submit summary implementation plans along with each TMDL and an implementation plan sometime after the TMDL is approved. Idaho has agreed to submit implementation plans to EPA 18 months after the TMDL is approved by EPA.

U Reasonable Assurance

Considerations:

- ! EPA guidance calls for reasonable assurance when TMDLs are developed for waters impaired by both point and nonpoint sources. This information is necessary for EPA to determine that the load and wasteload allocations will achieve water quality standards.
- ! **In a water impaired by both point and nonpoint sources, where a point source is given a less stringent wasteload allocation based on an assumption that nonpoint source load reductions will occur, reasonable assurance that the nonpoint source reductions will happen must be explained.**
- ! In a water impaired solely by nonpoint sources, reasonable assurances that load reductions will be achieved are not required in order for a TMDL to be approved. However, for such nonpoint source-only waters, States/Tribes are strongly encouraged to provide reasonable assurances regarding achievement of load allocations. Such reasonable assurances should be included in State/Tribe implementation plans and "may be non-regulatory, regulatory, or incentive-based, consistent with applicable laws and programs."

U Public Participation

Considerations:

- !** EPA regulations require public review [40 CFR §130.7(c)(1)(ii), 40 CFR §25] consistent with State or Tribe's own continuing planning process and public participation requirements. In guidance, EPA has explained that final TMDLs submitted to EPA for review and approval must describe the State/Tribe's public participation process, including a summary of significant comments and the State/Tribe's responses to those comments.
- !** Inadequate public participation could be a basis for disapproving a TMDL; however, where EPA determines that a State/Tribe has not provided adequate public participation, EPA may defer its approval action until adequate public participation has been provided, either by the State/Tribe or by EPA..

U Other Comments

Considerations:

- !** This section may be needed in the TMDL review in order to describe unique factors or information specific to the TMDL under review which help explain the basis for EPA's decision.

3. ADMINISTRATIVE RECORD AND SUPPORTING MATERIAL

Judicial review of a TMDL is based on EPA's written decision and the administrative record supporting that decision. The administrative record is a collection of documents that set forth the basis for EPA's decision, including all the information relied upon by EPA for its decision. The administrative record contains all relevant, factual material considered by EPA in making its decision, any relevant guidance relied upon by EPA, comments/correspondence from outside parties including agency responses, and any other supporting documents. The administrative record is limited to those documents that are in existence at the time EPA makes its decision. Table 3 provides a summary of items identified by EPA's Office of General Counsel to consider for inclusion in an administrative record in a TMDL review and Table 4 provides a list of potential TMDL documents to be included in the TMDL Administrative Record Documents Docket.

Table 3. Items to Consider for Administrative Record in TMDL Reviews

- ! The State's/Tribe's proposed TMDL (public review draft) and accompanying narrative
- ! Public comments and state/tribal responses. A transcript or summary of any state/tribal hearing regarding the TMDL
- ! The state's final TMDL and accompanying narrative.
- ! State/Tribal documentation supporting TMDL, including:
 - description of methodology / models used to develop TMDL
 - description of data and information used to develop TMDL
- ! Any other state/tribal documents relied upon by EPA in making decision
- ! Any EPA documents (e.g., national / regional guidance, interpretations, protocols, technical documents) relied upon by EPA in making the decision – (can be included in generic file applicable to all TMDL / list decisions)
- ! Documentation of communication between EPA and the state and/or tribe following TMDL submittal and before approval which explains / supports the state's, tribe's or EPA's action
- ! Documentation of communication between EPA and other federal agencies (e.g., Fish and Wildlife Service) regarding TMDL
- ! Any supplementary comment responses drafted by EPA
- ! EPA decision and analysis of the TMDL, including full rationale for decision
- ! List / index of all documents relied upon by state/tribe in developing TMDL (useful for cross - check purposes if available from state/tribe)
- ! List / index of all documents relied upon by EPA in approving TMDL (serves as an index to the administrative record in the event of legal challenge)

Table 4. Potential TMDL Documents to include in Administrative Record Documents Docket

- ! Protocol for Developing Pathogen TMDLs, EPA, January 2001
- ! TMDL Review Guidelines, EPA Region 10, April 2000
- ! Protocol for Developing Nutrient TMDLs, EPA, November 1999
- ! Protocol for Developing Sediment TMDLs, EPA, October 1999
- ! Memorandum from Robert H. Wayland, Director, Office of Wetlands, Oceans and Watersheds, EPA, *National Clarifying Guidance For 1998 State and Territory Section 303(d) Listing Decisions*, August 27, 1997.
- ! Memorandum from Robert Perciasepe, Assistant Administrator to Regional Administrators & Regional Water Division Directors, EPA, *New Policies for Establishing and Implementing Total Maximum Daily Loads*, August 8, 1997.
- ! Memorandum from Geoffrey H. Grubbs, Director, Assessment and Watershed Protection Division, EPA to FACA Workgroup, *Section 303(d) Listing Criteria, Nonpoint Sources and Section 303(d) Listing Requirements*, May 23, 1997.
- ! *Compendium of Tools for Watershed Assessment and TMDL Development*, EPA, May 1997.
- ! Memorandum from Robert Perciasepe, Assistant Administrator, EPA, *EPA Action on 1996 Lists, Priority Rankings and TMDL Targeting Plans Submitted by States Under Section 303(d) of the Clean Water Act*, August 9, 1996.
- ! Memorandum from Robert Perciasepe, Assistant Administrator, EPA, *Total Maximum Daily Loads: A Key to Improving Water Quality*, February 26, 1996.
- ! Memorandum from Geoffrey Grubbs, Director, Assessment and Watershed Protection Division, EPA, *Guidance for 1994 Section 303(d) Lists*, November 26, 1993.
- ! Memorandum from Geoffrey Grubbs, Director, Assessments and Watershed Protection Division, EPA, *Approval of 303(d) Lists, Promulgation Schedules/Procedures, Public Participation*, October 30, 1992.
- ! Memorandum from Geoffrey Grubbs, Director, Assessments and Watershed Protection Division, EPA, *Supplemental Guidance on Section 303(d) Implementation*, August 13, 1992.
- ! Memorandum from Geoffrey Grubbs, Director, Assessments and Watershed Protection Division, EPA, *Final Rules for Implementing Clean Water Act Section 303(d)*, August 12, 1992.
- ! *Guidance for Water Quality-Based Decision: The TMDL Process*, EPA, April 1991.